## CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—LOS ANGELES REGION

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WORK PLAN EVALUATION (FILE NO. 86-68)

A workplan was submitted on January 14, 1987, as requested by staff of the Regional Board, to address soil and ground water contamination at Monadnock. This workplan consisted of a copy of a letter from your consultant to you describing an expansion of the on-site ground water monitoring and further development of hydrogeologic parameters. An additional 6 monitoring wells were proposed in the letter workplan, with descriptions of monitoring well construction and development approach.

Although delineation work should proceed without additional delay, an amended workplan must be submitted addressing the following concerns:

- 1) Discuss the approach that will be taken to derive the following information from the combined suite of old and new wells:
  - a) Vertical and lateral geometry of the upper aquifer.
  - b) Effect of the channel deposits and artificial fill on the site's potentiometric surface.
  - c) Details of site hydrostratigraphy and on-site hydraulic conductivity.
  - d) Vertical and lateral variations in hydraulic parameters such as conductivity.
  - e) Direction and rate of ground water over the entire site.
  - f) Hydrologic parameters for specific site materials such as the artificial fill.
- 2) Describe sampling and analysis procedures. For instance:
  - a) Method and equipment used to collect the samples. Collection and treatment procedures should follow EPA guidelines to minimize loss of volatiles and must be adequately described.
  - b) Sampling interval.

- c) Number and type of soil samples. Discrete samples will be taken and analyzed.
- d) Any proposed screening techniques 3.g. OVA.
- 3) An analysis plan for both soil and water should be presented:
  - a) Analysis must be based on EPA Method 8240 or 8010/8020 and supplemented by methods necessary to characterize other major chemicals pertinent to site use history.
  - b) Limits of detection should approach published EPA values.
    Laboratory QA/QC sheets must be submitted with the results in the technical report. The laboratory must be certified by DHS for the specific required procedures.
  - c) Description of laboratory extraction procedures and justification of detection limits achieved.
  - d) Water must be analyzed according to EPA Methods 601/602 or 624. Samples must be submitted to the laboratory in unfiltered form. Sample turbidity must be reported as well as any special laboratory preparation procedures. Any laboratory filtering must be described and justified with errors analysis. The same chemical suite as the soils must be analyzed for.
- 4) An approach to determining the retardation characteristics of the soils and artificial fill must be described.
- 5) Onsite contaminant and offsite disposal plans need to be described. For example, based on our walkthrough of December 30, 1986 the excavated contaminated soils which are not containerized should be protected from effects of rain and wind.
- 6) A site safety plan needs to be described and arrangements made relative to the excavation and other site investigation activities.
- 7) A description of systematic investigation of other possible onsite soil contamination needs to be made. Soil sampling must be performed in the AC area where evidence of barrel storage is present.

Further, we have several comments about the distribution of monitoring wells, well construction, and sampling proposed in the letter-workplan.

The principal aquifer materials need to be characterized such as by sieve analysis and the filter pack designed on the basis of the results. The screen should be selected to match the filter pack. The results should be included in the technical report. Total solids in the sandfree non-turbid water to be produced should be less than 5ppm.

- 2) Screened casing should extend a minimum of 20 feet below water table and should extend 10 feet above water table. Elevations of the wellhead need to be determined.
- 3) A minimum of 3 feet of concrete or concrete—bentonite seal should be placed above the bentonite seal. The seal should be placed above the bentonite seal. The seal should be 3 to 5 feet in thickness.
- 4) The distribution of wells, with exception of MW-7, is chiefly along the buried channel. A well should be emplaced east of MW-2 along the property line to ascertain whether contaminated water is leaving the site along a broader front than anticipated. Shifting MW-9 would accomplish this.
- 5) Several shallow soil borings, from one to five feet in depth should be made in the AC area parking and samples analyzed prior to positioning of MW-6 and MW-5.
- 6) Determination of offsite extent of contamination should be addressed in this workplan, whether by sampling San Jose Creek or by obtaining permission for offsite drilling.
- 7) Consideration should be given to at least one well being extended deeper to determine vertical extent of contamination and possible involvement of a lower aquifer.
- 8) Site cross-sections should be developed from the data obtained in the borings. Hydraulic interconnectivity of the natural aquifer materials and artificial fill need to be determined. Consideration should be given to use of 2 inch piezometers.
- 9) Consideration should be given to aquifer testing to determine the efficacy of the ongoing pump/treat operation at MW-2 and whether or not any lateral permeability barriers exist. Geohydraulic parameters (velocity, gradient, direction, and transmissivity, etc.) should be developed from the data obtained.

Please submit the addendum workplan to us by March 12, 1987. If you have any questions, please call Philip Chandler at (213) 620-2385. Thank you for your cooperation.

HANK H. YACOUB

Supervising Water Resource

Control Engineer

PBC:sml

cc: See attached mailing list

The Monadnock Company Mailing List

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